

What is claimed is:

- 09320457-052799
1. An optical symbol reading device comprising:  
an image data input section that is provided with an image  
data input unit for receiving a bar code label,  
characters, symbols, or image data on an article that is  
5 moved by a conveyor, and an image data input focus point  
modifier;  
an article detector for detecting that said article has  
entered a read zone;  
an interpreter for converting electric signals from said  
10 image data input section to numbers or characters;  
an interpretation result output section for outputting the  
interpretation results of said interpreter to an external  
device;  
a front surface/back surface position detector for  
15 detecting a position on said conveyor of a front surface  
or back surface of an article that is moved by said  
conveyor, and  
an image data input focus point control section for  
outputting data from said front surface/back surface  
20 position detector to said image data input focus point  
modifier.

2. An optical symbol reading device according to  
claim 1 wherein said front surface/back surface position  
detector comprises:

means that is provided with a light projection position  
5 detector and a light reception position detector made up  
of a plurality of transmissive multiple optical axis  
sensors, for finding the position of the front surface or  
back surface of said article by detecting which  
transmissive multiple optical axis sensors of the  
10 plurality of transmissive multiple optical axis sensors of  
said light projection position detector are being shielded  
by said article.

3. An optical symbol reading device according to  
claim 1 wherein said front surface/back surface position  
detector comprises:

means provided with a rotary encoder that is attached to  
5 said conveyor, for finding the position of the front  
surface or back surface of said article by counting pulses  
from said rotary encoder and measuring a distance of  
movement of said conveyor.

4. An optical symbol reading device according to  
claim 1 wherein said image data input focus point control  
section comprises:

means for converting front surface/back surface position  
5 data of said article that are received from said front  
surface/back surface position detector to a reading  
distance, which is the distance between said image data

input unit and the front surface or back surface of said article, and outputting said reading distance as focus  
10 point data to said image data input focus point modifier.

5. An optical symbol reading device according to claim 1 wherein said image data input focus point modifier comprises:

means for matching the focus point to the front  
5 surface or back surface of said article that moves constantly over time by setting the focus point to a position designated by said focus point data that are received from said image data input focus point control section.

6. An optical symbol reading device according to claim 1 further comprising:

means for reading two surfaces, i.e., a side surface /back surface or a side surface/front surface, of an article moved by a conveyor by fixing a focus on a  
5 position of said side surface and reading said side surface when receiving a bar code label, characters, symbols, or image data on the side surface of said article from said image data input unit.

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only  
A2

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D2

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F3